

What is claimed is:

1. A mounting bracket for removably connecting an acoustic sensor element to an inside wall of a sonar dome of a marine vessel, the mounting bracket comprising:

a first protrusion bonded at a first end thereof to the inside wall of the sonar dome and extending inwardly therefrom, the first protrusion being provided with a first widthwise extending slot in a side thereof, the first slot being spaced from the inside wall;

a second protrusion bonded at a first end thereof to the inside wall of the sonar dome and extending inwardly therefrom and spaced from said first protrusion, the second protrusion being provided with a widthwise extending second slot in a side thereof, the second slot being spaced from the inside wall and being opposed to and in alignment with the first slot;

the slots being adapted to receive portions of the acoustic sensor element and to hold the acoustic sensor element in a position proximate to and removed from the inside wall of the sonar dome; and

at least one of said first and second protrusions being sufficiently flexible to permit bending of the protrusion to facilitate insertion of the acoustic sensor element into the first and second slots, and being sufficiently rigid to snap back into a non-bent configuration to lock the acoustic sensor element in the first and second slots.

2. The mounting bracket in accordance with claim 1 and further comprising a restraint member for maintaining said protrusions in positions holding the acoustic sensor element therebetween.

3. The mounting bracket in accordance with claim 2 wherein said restraint comprises a rigid rod.

4. The mounting bracket in accordance with claim 1 wherein said at least one protrusion is of polyurethane.

5. The mounting bracket in accordance with claim 1 wherein each of the slots is adapted to receive corner portions of two of the acoustic sensor elements.

6. The mounting bracket in accordance with claim 3 wherein each of said protrusions is provided with a bore extending therethrough and adapted to receive said rod therein.

7. The mounting bracket in accordance with claim 1 wherein said first and second protrusions comprise polyurethane blocks, the inside wall of the sonar dome is made of a selected one of a class of materials consisting of (i) fiberglass and rubber composite material, (ii) fiberglass, and (iii) rubber and steel, and said first ends of said protrusions are attached to the sonar dome inside wall by an epoxy resin.

8. The mounting bracket in accordance with claim 7 wherein said sonar dome is made of fiber glass and said protrusions are fixed to said sonar dome by an epoxy resin.

9. The mounting bracket in accordance with claim 1 wherein the slots are spaced from the dome inside wall sufficiently to provide a space between the inside wall and the acoustic sensor element, the space being filled with seawater in operation of the dome.

10. The mounting bracket in accordance with claim 1 wherein said protrusions are parallel to each other.

11. A sonar dome assembly for marine vessels, the assembly comprising:

a shell for attachment to an outboard surface of an
underwater portion of a vessel;

a plurality of mounting brackets fixed to an inboard surface
of said shell; and

a plurality of acoustic sensor elements releasably held on
said mounting brackets;

said mounting brackets each comprising two protrusions for
retaining sensor elements mounted thereon spaced from
the shell inboard surface;

wherein the protrusions are adapted to be spread apart to
release and receive the sensor elements, and are
adapted to snap toward each other when not restrained,
to clamp one of the sensor elements therebetween.

12. The assembly in accordance with claim 11 wherein said shell
is made of a selected one of a group of materials consisting of
(i) fiberglass, (ii) fiberglass and rubber composite, and (iii)
rubber and steel, and said mounting brackets are fixed to said
shell by an adhesive.

13. The assembly in accordance with claim 12 wherein said shell is made of a fiberglass and rubber composite material, and the inboard surface thereof is fiberglass and said mounting brackets are fixed to said inbound surface by an epoxy resin.

14. The assembly in accordance with claim 11 wherein at least one of the protrusions of said mountings is sufficiently flexible to be bent to permit insertion of the sensor element between the projections.

15. The assembly in accordance with claim 11 wherein space between the shell inboard surface and the sensor elements is free flooded with seawater.